

### Test equipment

Stroboscope, revolution counter

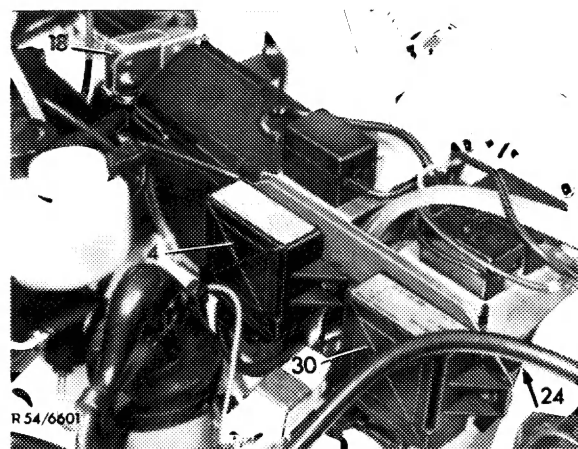
The following checks are to be performed with engine at operating temperature

- Connect stroboscope and revolution counter  
Start engine and run at idle speed.

### Check ignition change-over with rpm switch (4)

- Check ignition timing at idle speed. Slowly increase engine speed. At approximately 2400/min., the ignition retard must be cancelled.

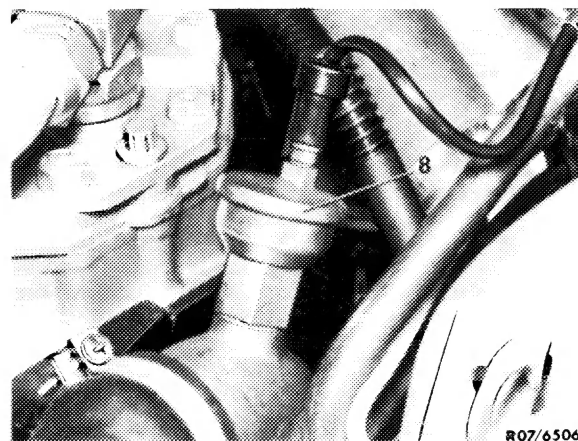
(Ignition firing point is advanced by approximately  $10^{\circ}$ ). Below 2200/min., the ignition retard will be in effect.



### Check ignition change-over with $100^{\circ}\text{C}$ ( $212^{\circ}\text{F}$ ) temperature switch (8)

- Run engine at idle speed.

Connect the  $100^{\circ}\text{C}$  ( $212^{\circ}\text{F}$ ) temperature switch (8) to ground. This will cause the ignition timing to advance by about  $10^{\circ}$  and at the same time switch on auxiliary fan.



Engine 130.923 model year 1972

### Test equipment

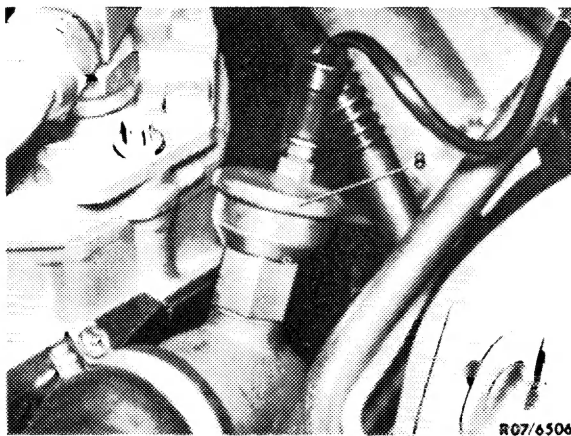
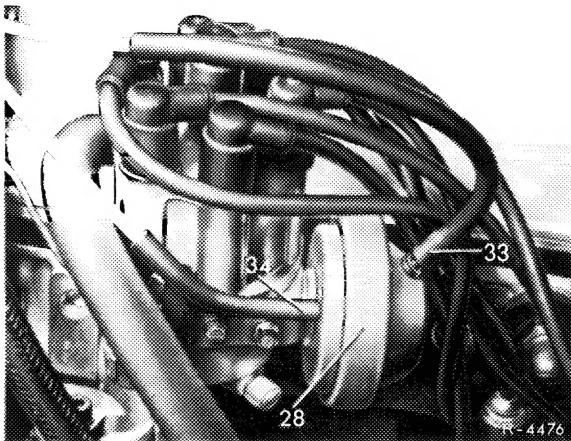
Stroboscope, revolution counter

The following checks are to be performed with engine at operating temperature:

- Connect stroboscope and revolution counter. Start engine and run at idle speed

#### Check ignition change-over with rpm switch.

- Check ignition timing at idle speed. Slowly increase engine speed.
- Above approximately 2400/min, the distributor vacuum control (28) must advance the ignition; under approximately 2200/min ignition must be retarded.



#### Check ignition change-over with 100°C (212°F) temperature switch (8)

- Remove plug from 100°C (212°F) temperature switch and connect to ground. This should advance ignition.

## Test equipment

Stroboscope, revolution counter

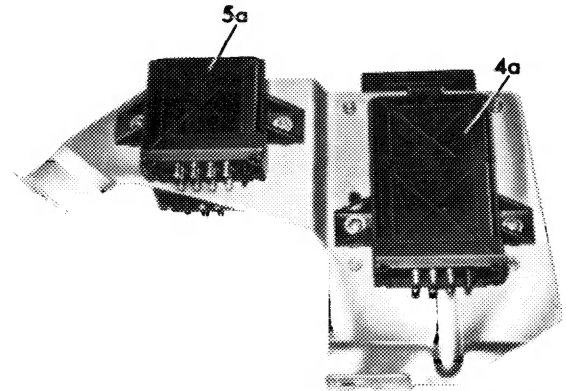
The following checks are to be performed with engine at operating temperature.

- Connect stroboscope and revolution counter, start engine and run at idling speed.

### Check ignition change-over with rpm switch (4a)

- Check firing point at idling speed, slowly increase engine speed. Ignition retard should be cancelled above approx. 2500/min. This will adjust the firing point by 20° in direction advance.

Below 2200/min the ignition should be adjusted again in direction retard.



R07/6563

### Check ignition change-over with 100°C (212°F) temperature switch (8)

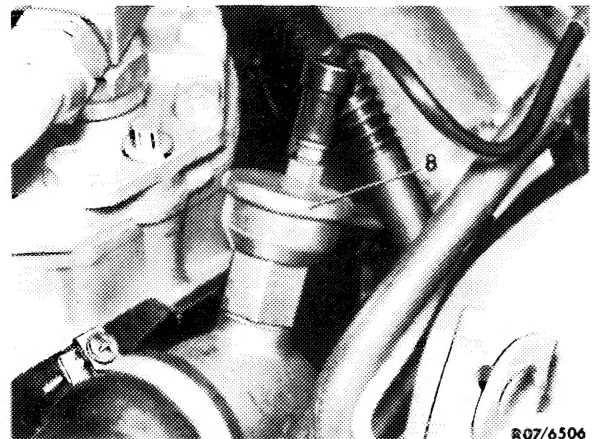
- Pull plug from 100°C (212°F) temperature switch and connect to ground. Ignition retard should be cancelled and the auxiliary fan switched on.

### Check ignition change-over when shifting 4<sup>th</sup> gear

For this test, the vehicle should be driven on a dynamometer or on the road.

When changing from 3rd to 4th gear the ignition retard should be cancelled.

When changing back from 4th to 3rd gear below 2500/min the vacuum box on ignition distributor should be set to ignition retard.

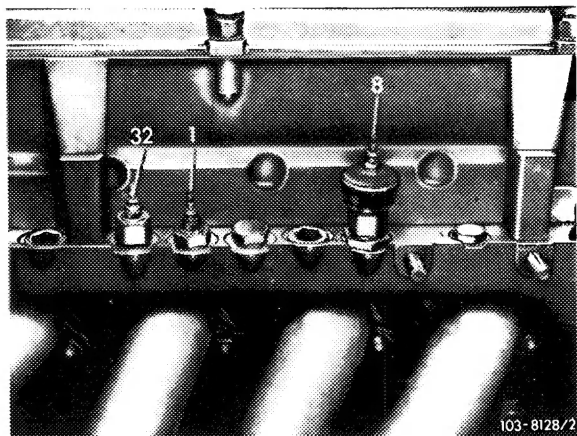


R07/6506

Engine 110 model year 1973

Engine 110 model year 1974, Federal Emission Control System

The following checks are to be performed with engine at operating temperature:



### Test No. 1

Disconnect the plug of the line to 17°C (62°F) temperature switch (7) in oil filter housing and connect to ground.

### Result

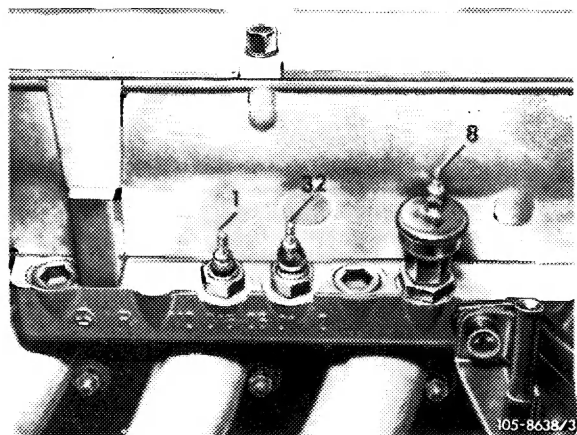
Engine speed should increase (ignition retard is cancelled).

### Test No. 2

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

### Result

Engine speed should increase (ignition retard is cancelled). Auxiliary fan should run.



### Test No. 3

Turn on air conditioner.

### Result

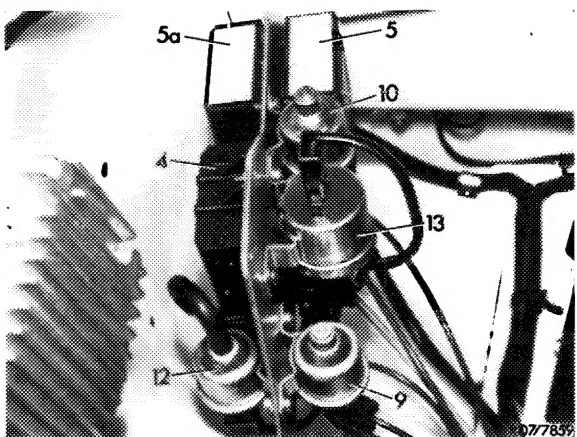
Engine speed should not drop (ignition retard is cancelled).

### Test No. 4

Remove vacuum line from top of switch-over valve (12). Remove blue vacuum line from vacuum switch (13).

### Result

Engine speed should increase (ignition retard is cancelled).



### Test No. 5

Disconnect plug from connection at the relay support and ground male terminal 2 (wire color brown/white).

### Result

Engine speed should increase (ignition retard is cancelled).

### Test equipment

Revolution counter, stroboscope

The following checks are to be performed with engine at operating temperature:

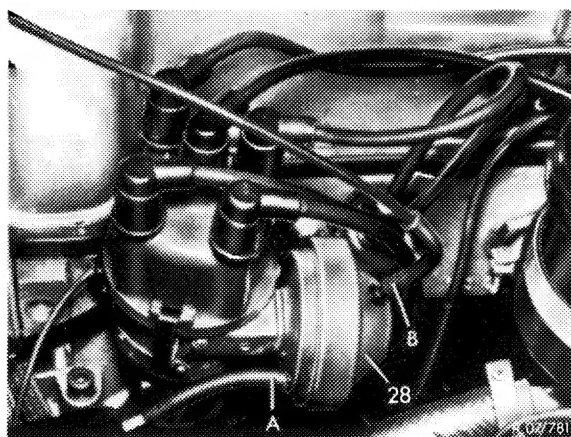
- Connect stroboscope and revolution counter, start engine and run at idling speed.

### Check firing point without vacuum adjustment.

- Pull vacuum lines (A and B) from ignition distributor. Check firing point at 4500/min. Nominal value 42–48° BTDC.

### Check firing point with vacuum adjustment in direction retard.

- Plug white vacuum line (A) to ignition distributor. Check firing point at 4500/min. Nominal value 32–42° BTDC.



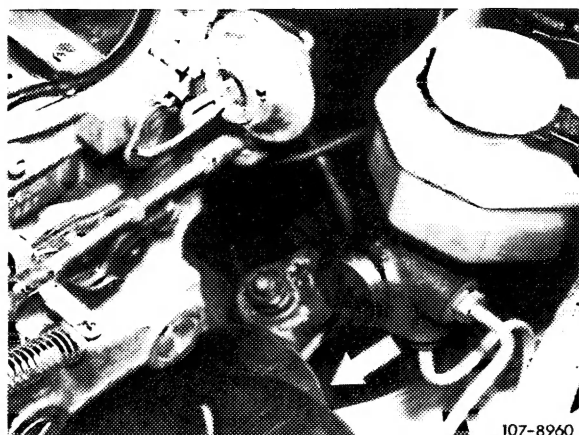
### Check firing point with vacuum adjustment in direction advance.

- Plug red vacuum line (B) to ignition distributor. Pull-off white vacuum line.

Check firing point at 4500/min. Nominal value 48–58° BTDC.

Engine 110 model year 1974, California Emission Control System

The following checks are to be performed with engine at operating temperature:



#### Test No. 1

Disconnect the plug of line to 17°C (62°F) temperature switch in oil filter housing (arrow) and connect to ground.

#### Result

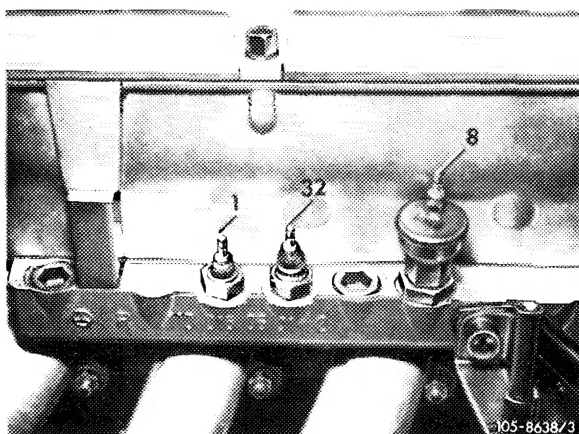
Engine speed should increase (ignition retard is cancelled).

#### Test No. 2

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

#### Result

Engine speed should increase (ignition retard is cancelled). Auxiliary fan should run.

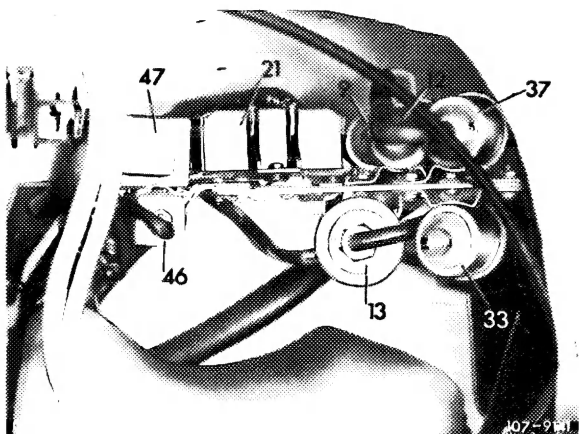


#### Test No. 3

Turn on air conditioner.

#### Result

Engine speed should not drop (ignition retard is cancelled).



#### Test No. 4

Remove vacuum line on top of switch-over valve (12). Remove blue vacuum line on vacuum switch (13).

#### Result

Engine speed should increase (ignition retard is cancelled).

### Test equipment

Revolution counter

The following checks are to be performed with engine at operating temperature:

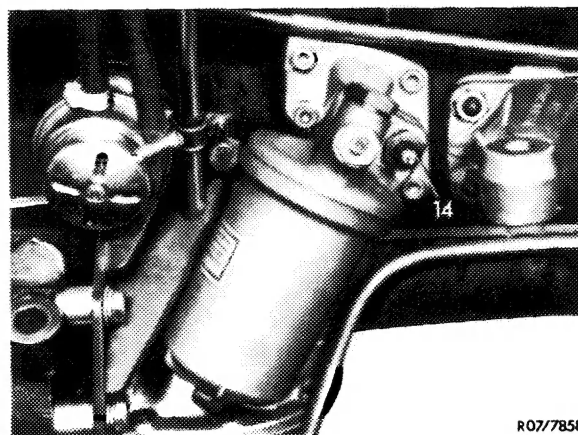
Run engine to operating temperature at idle.

#### Test No. 1

Disconnect the plug of line to the 25°C (77°F) temperature switch (14) in oil filter housing and connect to ground.

#### Result

Engine rpm should increase (ignition vacuum advance is effective).



R07/7858

#### Test No. 2

Increase engine speed to approximately 2500/min and then remove the red vacuum line at the distributor.

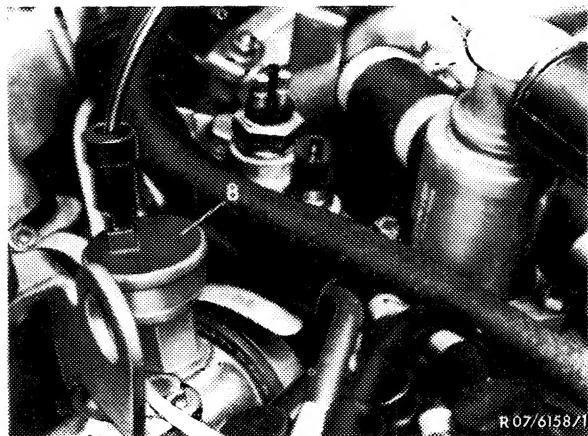
#### Result

Engine rpm should drop slightly (ignition vacuum advance is cancelled).

Engine 117 Model year 1974

The following checks are to be performed with engine at operating temperature:

Run engine to operating temperature at idle.



**Test No. 1**

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

**Result**

Engine speed should increase (ignition retard is cancelled). On model 116 the auxiliary fan should operate.

**Test No. 2**

Switch on air conditioning.

**Result**

Engine speed should increase slightly (ignition retard is cancelled).